

TABLE 2.—Instrumental reports, June, 1916—Continued.

Date.	Charac-ter.	Phase.	Time.	Period T.	Amplitude.		Dis- tance.	Remarks.
					A <sub>m</sub>	A <sub>N</sub>		

New York. *Ithaca*—Continued.

1916.			<i>H. m. s.</i>	<i>Sec.</i>	$\mu$	$\mu$	<i>Km.</i>	
June 25	en	.....	18 37 40	25	.....	.....	.....	Phases obscure.
	en	.....	18 37 52	4	.....	.....	.....	
	M <sub>N</sub>	.....	18 38 33	12	.....	36	.....	
	F <sub>N</sub>	.....	18 49 00	.....	.....	.....	.....	
	F <sub>N</sub>	.....	18 50 00	.....	.....	.....	.....	
30	en	.....	3 09 07	8	.....	.....	.....	
	en	.....	3 13 49	18	.....	.....	.....	
	F <sub>N</sub>	.....	3 13 58	13	.....	.....	.....	
	F <sub>N</sub>	.....	3 16 59	12	.....	.....	.....	
	F <sub>N</sub>	.....	4 10 00	.....	.....	.....	.....	
	F <sub>N</sub>	.....	4 11 00	.....	.....	.....	.....	

Panama Canal Zone. *Balboa Heights*. Isthmian Canal Commission.

Lat., 8° 57' 39" N.; long., 79° 33' 29" W. Elevation, 27.6 meters.

Instruments: Two Bosch-Omori 100 kg.

Instrumental constants..  $\frac{V}{10} \frac{T_0}{20}$ 

(Report for June, 1916, not received.)

Porto Rico. *Vieques*. Magnetic Observatory. U. S. Coast and Geodetic Survey. H. M. Pease.

Lat., 18° 09' N.; long., 65° 27' W. Elevation, 19.8 meters.

Instruments: Two Bosch-Omori.

Instrumental constants..  $\frac{V}{N} \frac{T_0}{E}$   $\frac{10}{10} \frac{21.4}{21.1}$ 

1916.			<i>H. m. s.</i>	<i>Sec.</i>	$\mu$	$\mu$	<i>Km.</i>	
June 21	en	.....	21 40 17	.....	.....	.....	.....	Ending uncertain because of micro-seisms or wind tremors.
	en	.....	21 45 58	.....	.....	.....	.....	
	en	.....	21 46 09	.....	.....	.....	.....	
	L <sub>N</sub>	.....	21 48 52	.....	.....	.....	.....	
	L <sub>N</sub>	.....	21 49 34	.....	50	20	.....	
	M <sub>N</sub>	.....	21 49 50	.....	.....	.....	.....	
	C <sub>N</sub>	.....	21 55 00	.....	.....	.....	.....	
30	en	.....	3 05 42	.....	.....	.....	.....	Beginning and end uncertain on N.
	L <sub>N</sub>	.....	3 09 26	16	.....	.....	.....	
	L <sub>N</sub>	.....	3 09 54	20	.....	.....	.....	
	M <sub>N</sub>	.....	3 09 54	16	.....	100	.....	
	M <sub>N</sub>	.....	3 10 16	16	120	.....	.....	
	C <sub>N</sub>	.....	3 14 00	.....	.....	.....	.....	
	F <sub>N</sub>	.....	3 24 00	.....	.....	.....	.....	
	F <sub>N</sub>	.....	3 28 00	.....	.....	.....	.....	

Vermont. *Northfield*. U. S. Weather Bureau. Wm. A. Shaw.

Lat., 44° 10' N.; long., 72° 41' W. Elevation, 256 meters.

Instruments: Two Bosch-Omori, mechanical registration.

Instrumental constants..  $\frac{V}{N} \frac{T_0}{E}$   $\frac{10}{10} \frac{15}{16}$ 

1916.			<i>H. m. s.</i>	<i>Sec.</i>	$\mu$	$\mu$	<i>Km.</i>	
June 2	P	.....	14 05 47	.....	.....	.....	.....	
	S	.....	14 10 27	.....	.....	.....	.....	
	L <sub>T</sub>	.....	14 18 05	.....	.....	.....	.....	
	F	.....	14 35 00	.....	.....	.....	.....	
21	P	.....	21 42 33	.....	.....	.....	.....	
	S	.....	21 51 24	.....	.....	.....	.....	
	SR	.....	21 55 05	.....	.....	.....	.....	
	L	.....	21 59 40	.....	.....	.....	.....	
	F <sub>T</sub>	.....	.....	.....	.....	.....	.....	Artificially disturbed.
25	SR	.....	18 37 30	.....	.....	.....	.....	
	L	.....	18 40 33	.....	.....	.....	.....	
	F	.....	19 00 00	.....	.....	.....	.....	
30	P	.....	3 07 37	.....	.....	.....	.....	
	SR	.....	3 13 00	.....	.....	.....	.....	
	SR	.....	3 15 08	.....	.....	.....	.....	
	L	.....	3 18 35	.....	.....	.....	.....	
	F	.....	4 20 00	.....	.....	.....	.....	

Canada. *Ottawa*. Dominion Astronomical Observatory. Earthquake Station. Otto Klotz.

Lat., 45° 23' 38" N.; long., 75° 42' 57" W. Elevation, 83 meters.

Instruments: Two Bosch photographic horizontal pendulums, one Spindler &amp; Hoyer 80 kg. vertical seismograph.

Instrumental constants:  $\frac{V}{120} \frac{T_0}{26}$ 

(Report for June, 1916, received too late.)

Date.	Charac-ter.	Phase.	Time.	Period T.	Amplitude.		Dis- tance.	Remarks.
					A <sub>m</sub>	A <sub>N</sub>		

Canada. *Toronto*. Dominion Meteorological Service.

Lat., 43° 40' 01" N.; long., 79° 23' 54" W. Elevation, 113.7 meters. Subsoil: Sand and clay.

Instrument: Milne horizontal pendulum, North. In the meridian.

Instrumental constant..  $\frac{T_0}{18}$ . Pillar deviation, 1 mm. swing of boom=0.59".

(Report for June, 1916, not received.)

Canada. *Victoria, B. C.* Dominion Meteorological Service.

Lat., 48° 24' N.; long., 123° 19' W. Elevation, 67.7 meters. Subsoil: Rock.

Instrument: Wiechert, vertical; Milne horizontal pendulum, North. In the meridian.

Instrumental constant..  $\frac{T_0}{18}$ . Pillar deviation, 1 mm. swing of boom=0.54".

(Report for June, 1916, not received.)

TABLE 3.—Late seismological reports. (Instrumental.)

Date.	Charac-ter.	Phase.	Time.	Period T.	Amplitude.		Dis- tance.	Remarks.
					A <sub>m</sub>	A <sub>N</sub>		

Kansas. *Lawrence*. University of Kansas. Department of Physics and Astronomy. W. E. Kester.

Lat., 38° 57' 30" N.; long., 95° 14' 58" W. Elevation, 301.1 meters.

Instrument: Wiechert.

Instrumental constants..  $\frac{V}{E} \frac{T_0}{N}$   $\frac{177}{205} \frac{3.4}{3.4} \frac{4.0}{3.8}$ 

1916.			<i>H. m. s.</i>	<i>Sec.</i>	$\mu$	$\mu$	<i>Km.</i>	
Feb. 2	P <sub>N</sub>	.....	5 05 31	.....	.....	.....	.....	S not discernible.
	L <sub>N</sub>	.....	5 10 25	.....	.....	.....	.....	
	M <sub>N</sub>	.....	5 10 50	4-5	.....	4	.....	
	M <sub>N</sub>	.....	5 13 38	6-7	.....	2	.....	
	F	.....	5 32 00	.....	.....	.....	.....	

SEISMOLOGICAL DISPATCHES.<sup>1</sup>*Mobile, Ala., June 3, 1916.*

Earthquake tremors apparently about 900 miles distant were recorded on the seismograph at Spring Hill College here yesterday. (Assoc. Press.)

*New York Times, June 9, 1916.*

A seismic disturbance was felt in the Hudson Valley in the vicinity of Hastings for several minutes shortly after 4 o'clock yesterday afternoon.

While imperceptible in Manhattan, the tremor was noticed at many points in Westchester County. It was described as a heavy rumble like the report from an underground explosion. The vibration lasted about two minutes. (Local dispatch.)

*Rome, June 16, 1916, via Paris, 2.30 p. m.*

A heavy earthquake was reported at 3.25 o'clock this morning at Forlì, a town of central Italy, having a population of 50,000, and at Rimini, a town with the same number of persons, 28 miles farther east. There were no casualties. (Assoc. Press.)

*Rome, June 27, 1916.*

Mount Vesuvius is violently active to-night. Dense columns of smoke are rising from newly formed craters of the historic volcano.

Mount Stromboli, in Sicily, also is active. The mouth of the mountain is emitting streams of incandescent lava. (Assoc. Press.)

<sup>1</sup> Reported by the organization indicated and collected by the seismological station at Georgetown University.